CLAIMS

1. Method providing a homogeneous test for the detection of any antitumour substances substitutive of paclitaxel in the paclitaxel binding site of microtubules, wherein:
   - said method is based on the combination of a target and a probe;
   - the substances to test are added to a solution of the target which consists of microtubules and the fluorescent probe bound to the target;
   - the displacement of the competitor substances of the interaction of the probe with the target is determined by measuring the drop in anisotropy in the variation of intensity of fluorescence of the probe or of the resonance energy transfer of the probe to a suitable acceptor;
   - and a biomimetic compound of paclitaxel is identified if a drop in the anisotropy of the fluorescence of the probe is observed or by means of the drop in resonance energy transfer to the probe bound to a ligand.

2. Method in accordance with claim 1, wherein the target of this method are microtubules assembled *in vitro* which are stabilised by means of chemical cross-linking and are indefinitely conserved by means of dialysis against a conservation and cryopreservation buffer.

3. Method in accordance with claim 2, wherein the target of this method are microtubules assembled *in vitro* which are stabilised by means of chemical cross-linking and are indefinitely conserved by means of dialysis against a conservation and cryopreservation

buffer.

4. Method in accordance with claim 1, wherein the probe of this method is any fluorescent derivative of paclitaxel that is specifically bound to microtubules, including among others
7-O-[N-(2,7-dfluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,
7-O-[N-(2,7-dfluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxe,l
7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel, and
7-O-[N-(2,7-dfluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel.

5. Method in accordance with claim 2, wherein the probe of this method is any fluorescent derivative of paclitaxel that is specifically bound to microtubules, including among others
7-O-[N-(2,7-dfluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,
7-O-[N-(2,7-dfluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxe,l
7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel, and
7-O-[N-(2,7-dfluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel.

6. Method in accordance with claim 3, wherein the probe of this method is any fluorescent derivative of paclitaxel that is specifically bound to microtubules, including among others
7-O-[N-(2,7-dfluoro-4'-fluoresceincarbonyl)-L-alanyl]paclitaxel,
7-O-[N-(2,7-dfluoro-4'-fluoresceinsulphonyl)-L-alanyl]paclitaxe,l

7-O-[N-(4'-tetramethylrhodaminrecarbonyl)-L-alanyl]paclitaxel, and
7-O-[N-(2,7-dfluoro-4'-fluoresceincarbonyl)-L-beta-alanyl]paclitaxel.

7. Method in accordance with claim 1, characterized in that it can be robotised and in that the measurements can be made using fluorescence plate readers.

8. Method in accordance with claim 2, characterized in that it can be robotised and in that the measurements can be made using fluorescence plate readers.

9. Method in accordance with claim 3, characterized in that it can be robotised and in that the measurements can be made using fluorescence plate readers.

10. Method in accordance with claim 4, characterized in that it can be robotised and in that the measurements can be made using fluorescence plate readers.

11. Method in accordance with claim 5, characterized in that it can be robotised and in that the measurements can be made using fluorescence plate readers.

12. Method in accordance with claim 6, characterized in that it can be robotised and in that the measurements can be made using fluorescence plate readers.

13. Method for the high-efficiency (HTP) identification of antitumour compounds acting on the binding site of paclitaxel in the microtubules, deriving from natural or synthetic sources, comprising the steps of the method of claim 1.

14. A method for the evaluation of new derivatives of

taxanes, epotilones, discodermalide, eleuterobine, sarcodicitine and any other binding site ligands of paclitaxel in the microtubules, comprising the steps of the method of claim 1.

15. The method of claim 13, for the evaluation of the content of said antitumour compounds in a natural production source.

16. The method of claim 14, for the evaluation of the content of said new derivatives in a natural production source.

17. A method for the evaluation of new sources for the extraction or preparation of potentially active substances starting from pharmacologically non-active or semi-active precursors, comprising the steps of the method of claim 1.

18. A method for the development of tools for conducting of tests in oncological and/or biological research related to cellular microtubules, comprising the steps of the method of claim 1.